

TWO NEW TYPES OF DESERT BEES

BY T. D. A. COCKERELL

Last March Mr. P. H. Timberlake went out into the Colorado Desert and brought back a series of remarkable new bees, including the species now described, one a new genus, the other a new subgenus or genus according to the point of view. California is indeed full of wonders.

Xeralictus Cockerell, new genus

Male. Head rather large, subquadrate; cheeks moderate, hairy; ocelli moderate, in a curved line, remote from eyes; a more or less remote elevation runs from middle of ocellus to end of clypeus, but on front and clypeus a groove runs down the middle of it; eyes rather small, narrow; lower border of clypeus simple, not excavated or toothed; labrum broad, transverse, with a large broad outstanding basal nodule; malar space short but evident, concave, shining; mandibles large and long, the apical two-thirds not in line with the base but bent downward, producing an obtuse angle on upper margin, apex with a sharp tooth, the inner tooth indicated by a broad rectangular lamina; on inner side below the obtuse angle mentioned is a broad shining basin bounded by a steep carina below, so that the mandibles may be described as trigonal; tongue much shorter than mandibles, slender, hairy; maxillary palpi long and slender, apparently five-jointed, the joints slender and subequal, but there are really six joints, the shorter basal joint being visible on closer inspection; labial palpi four-jointed, the first joint about as long as the next two together, apical joint slender, about as long as the one before; antennæ long and slender, scape moderate, third joint conspicuously longer than fourth; middle of flagellum submoniliform; prothorax not angulate anteriorly; mesothorax and scutellum smooth, little punctured; scutellum unusually long, not bigibbous; area of metathorax short, dull, without ridges or plicæ; tegulæ not punctured; stigma lanceolate; lower division of basal nervure strongly arched, meeting nervulus a little on outer side, the nervulus not in a line with it; three cubital cells, first acutely angled at base and apex and about as long as third; second moderate, narrower above than below, the lower basal corner produced; third narrowed about one-half above; marginal cell ending on costa, not very acutely; first recurrent nervure meeting second intercubitus; second recurrent reaching third cubital cell near the beginning of its last third; legs ordinary; spur of middle tibiæ strongly ciliate; claws bifid at end; pulvillæ large; abdomen dull, the apical depressions of segments conspicuous; a broad and large, apically truncate, somewhat trilobed, lamina projecting at apex of fourth ventral segment; genitalia elongated; stipites long, slender apically, broadened basally, subangulate near middle above; sagittæ long, turned inward at apex, suggesting the forceps of an earwig; seventh ventral plate with slender curved

processes, well separated at base and strongly diverging; wings of seventh ventral broad, not lobed, recalling the wings of a maple seed; eighth ventral plate with a long median entire rod, truncate at apex, and hardly chitinized rather short transverse lobes.

Xeralictus timberlakei Cockerell, n. sp.

Length about 12.5 mm.; black, rather robust; antennæ with scape and second joint black, joints three to five red above and below, rest of flagellum black, obscure red below; clypeus and supraclypeal area dullish, without evident punctures; eyes black, inner orbits narrowly shining; front dull with minute weak punctures; front, middle of vertex, occiput and cheeks with rather long white hair; mesothorax shining, very finely and not densely punctured, media and parapsidal grooves distinct, anterior margin obtusely produced in middle; prothorax, tubercles, pleuræ, sides of scutellum, postscutellum and metathorax with conspicuous silvery-white hair, at sides of metathorax conspicuously plumose; scutellum with hardly any punctures except at extreme sides; tegulæ rufotestaceous; wings grayish hyaline, stigma and nervures piceous; legs black with appressed white hair pale yellow on inner side of basitarsi; spurs ferruginous; abdomen dullish, excessively minutely punctured, with very little hair but an even white fringe at extreme base of second segment.

Salt Creek, California, at flowers of *Nuttallia involucrata* (Family Loasaceæ), March 20, 1927 (Timberlake).

A member of the Halictine series, differing from the Siberian *Acanthalictus* by the narrow stigma, long third cubital cell, and the character of the mandibles and base of the metathorax. The shape of the third cubital cell is as in *Lucasiellus*, but the bee is otherwise quite different. The long third cubital cell at once separates the genus from the Ceylonese genus *Sudila*, which has long curved mandibles. The clypeus of *Sudila* is also quite different.

Andrena (Megandrena) Cockerell, n. subg.

Male. Rather large very hairy bees, with very pale yellow clypeus and lateral face-marks; head large and broad; face very broad, eyes diverging below; labrum transverse, densely hairy; mandibles long, rather slender, falciform, the inner tooth represented by an obtuse angle not far from apex; lower side of mandibles with a long fringe of white hair; malar space very short; tongue short, narrow, not nearly as long as the mandibles; maxillary palpi with six short subequal joints, rather exceeding blade of maxilla which is broad, dark and densely chitinized; labial palpi four-jointed, the first joint curved, not as long as the other three together, the latter being subequal; ocelli fairly large, in a curve, remote from eyes; antennæ only mod-

erately long, third joint elongated, fully as long as next two combined; mesothorax and scutellum dullish, feebly sculptured; area of metathorax dull, without plicæ; tegulæ very hairy; wings with stigma very small and narrow; lower section of basal nervure straight except at lower end where it is gently curved, ending just apicad of the oblique nervulus; marginal cell rather narrow, ending obtusely on costa; three cubital cells, the first a little longer than the third but second very broad, narrower above but still as long as third on marginal nervure; first recurrent nervure joining second cubital cell at about the beginning of its last fourth; second reaching third cubital cell not very far beyond middle, the third cubital cell being much elongated, the outer intercubitus bulging outwardly at end; legs ordinary with long abundant hair; claws bifid; pulvilli large; abdomen with broad entire hair-bands; venter densely hairy; genitalia thick and massive, the lateral pieces consisting of broad rounded convex lobes, from the lower side of each coming a long slender process directed apicad and having a large, broadly clavate apex; sagittæ much shorter, but the long slender uncus projecting far beyond; seventh ventral plate with outwardly directed pointed lobes, beset with a very long fringe of hair, and with broad thinly chitinized wings; eighth ventral plate with a broad heavily chitinized process, densely hairy at end, the lateral processes poorly developed.

***Andrena (Megandrena) enceliæ* Cockerell, n. sp.**

Length, 15-16 mm.; black, densely covered with long white hair, forming dense entire bands on abdominal segments beyond the first; clypeus very pale yellow with two black spots; lateral face-marks pale yellow, filling the broad spaces between the clypeus and eye, except a black stripe going halfway down at sides of clypeus; mandibles black, their inner angle slightly reddened; eyes black; antennæ entirely black; mesothorax slightly shining, very finely and inconspicuously punctured, covered with long hair; tegulæ black, hairy; wings clear hyaline, apical margin faintly clouded, stigma and nervures black; legs black with white hair, that on inner side of basitarsi bright orange; spurs red; abdomen dullish, very finely punctured, first segment covered with long white hair, the others with white hair-bands, the hair at apex slightly yellowish.

Near **Salt Creek, California**, at flowers of *Encelia farinosa* (one of the Compositæ), March 19, 1927 (Timberlake). Two males.

Related to *Opanandrena* (type *cressonii* Robertson), but differing by the small stigma, very broad cubital cell with recurrent nervure subapical, and shorter middle joints of maxillary palpi. Compared with *Pterandrena* (type *accepta* Viereck), there is closer resemblance in the small stigma but the second cubital cell is quite different. In Viereck's table (1904) of the Opan-

drena and Pterandrena of the northwest it runs next to the much smaller *A. trevoris* Ckll. except that the abdomen is distinctly though finely punctured. *A. trevoris* is about 9 mm. long. This must, I think, be considered a distinct subgeneric type, or genus if we follow the method of Robertson. The third antennal joint, seen from in front, is about 560 microns long, the following two together being 480. It is impossible to find any closer affinity with existing forms and we have another of the curious isolated types of recent bees.

TWO INTERESTING BEETLES FROM CARLSBAD CAVERN

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In July last I had the pleasure of accompanying an entomological expedition from the Kansas State University to the Texas Panhandle, southeastern New Mexico, and the so-called Big Bend section of southern Texas. Collecting was quite good in several orders, particularly in the Coleoptera, to which I gave my undivided attention, laying up pleasurable work for the winter months.

Upon returning, the first material examined was a series of four species taken while exploring the "Bat Cave," a section not open to the public but connected with the Carlsbad Cavern of New Mexico, our latest national monument. Two of these species proved to be rather common representatives of the genus *Trox*, but the others apparently constitute an undescribed species and a subspecies. The most interesting of the two is a Carabid which, on the advice of Mr. H. C. Fall, is referred to the genus *Rhadine* where it undoubtedly belongs, although in habitus it bears a greater resemblance to the drawing of *Comstockia subterranea* Van Dyke (Jour. N. Y. Ent. Soc., XXVI, 1918, p. 179), than to any described species of the former genus.

Rhadine longicollis Benedict, new species

Form slender, elongate; head and prothorax rufo-piceous; elytra and femora red-brown with tibiae and tarsi but little lighter, antennae testaceous; head rhomboidal, elongate and narrowed behind with subglobular condyle, subequal in width to prothorax, the latter being just perceptibly wider; front tumescent and smooth medially, flat-